IRC Information Package

Clean Energy Resources

Information Resource Center, Public Affairs Section, U.S. Embassy Jakarta

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What is Clean Energy?

Clean energy includes demand- and supply-side resources that are less polluting ways to meet energy demand. Clean energy resources include:

Energy efficiency – refers to using less energy to provide the same or improved level of service to the energy consumer in an economically efficient way. Energy efficiency measures include a wide variety of technologies and processes, and can be implemented across all major energy-consuming sectors.

Renewable energy – energy generated partially or entirely from non-depleting energy sources for direct end use or electricity generation. Renewable energy definitions vary by state, but usually include wind, solar, and geothermal energy. Some states also consider low-impact or small hydro, biomass, biogas, and waste-to-energy to be renewable energy sources. Renewable energy can be generated on site or at a central station.

Combined heat and power (CHP) – also known as cogeneration, CHP is a clean, efficient technology that improves the conversion efficiency of traditional energy systems by using waste heat from electricity generation to produce thermal energy for heating or cooling in commercial or industrial facilities. CHP systems typically achieve 60% to 75% fuel use efficiencies, which is a significantly higher than those of conventional power plants.

Clean distributed generation (DG) – refers to non centralized—usually small-scale—renewable energy and CHP.

Source:
Lead by Example Guide Clean Energy Strategies, Resources, and Action Steps for State Programs
http://goo.gl/TIPEX

Related links:

- U.S. Environmental Protection Agency's (EPA's) Clean Energy http://www.epa.gov/cleanenergy
- Energy efficient products and services http://www.energystar.gov
- Clean Energy Standard Act of 2010 http://thomas.loc.gov/cgi-bin/query/z?c111:S.20:

U.S. Embassy Jakarta Mission Statement

Based on mutual respect and shared values, the U.S Mission works with Indonesia to strengthen democracy, sustain the environment, promote prosperity, enhance understanding and ensure security for our people, our nations, and our region.

Transitioning to a Clean Energy Future-Summary
(Chapter six of the *2011 Economic Report of the President**)

American prosperity depends on a continuous supply of safe and reliable energy. Energy heats, cools, and lights homes and businesses; transports workers to jobs, customers to stores, customers to stores, and families to relatives; and runs the factories that manufacture the goods Americans consume and export. It is increasingly clear, however, that existing energy supplies pose risks to national security, the environment, the climate, and the economy. To counter those risks, while recognizing the continued importance of safe responsible oil and gas production to the economy, the Administration is committed to moving the Nation toward use of cleaner

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Transitioning to a Clean Energy Future-Summary

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sources of energy with the potential to support new industries, exports, and high-quality jobs; to improve air quality and protect the climate; and to enhance America's energy security and international competitiveness. […]

This chapter highlights some of the important steps the Administration has already taken or is proposing to take to ensure that the economy makes the important transition to clean energy. The list of policies discussed here is not exhaustive but rather serves to demonstrate the economic rationale that motivates ongoing work on these programs. The policies include assisting with residential and commercial energy efficiency; increasing vehicle efficiency; increasing the share of electricity generated by clean sources; recording, reporting, and accounting for the cost of greenhouse gas emissions; funding transportation infrastructure including expanded transit and high-speed rail; assisting with manufacturing and adoption of electric vehicles; and providing incentives for clean energy research and development (R&D). Read complete report at: http://goo.gl/PWCId

* *The Economic Report of the President is an annual report written by the Chair of the Council of Economic Advisers. An important vehicle for presenting the Administration's domestic and international economic policies, it provides an overview of the nation's economic progress with text and extensive data appendices.*

Related source:

Clean Energy Progress Report is the IEA input to the Clean Energy Ministerial, highlights progress in the deployment of clean energy technologies globally.
Read more: http://goo.gl/TEGls

The U.S.- Indonesia Comprehensive Partnership on Clean Energy

Renewable energy and energy efficiency are key parts of Indonesia's plan to reduce greenhouse gas emissions and contribute to energy security goals. The United States has taken the following actions to support the clean energy deployment in Indonesia and promote trade and investment that benefits Indonesian users as well as United States exporters:

• USAID's Indonesia Clean Energy Development Program (ICED) will support Indonesia's efforts to introduce clean energy development by addressing regulatory barriers, capacity constraints, and increasing the development of renewable energies. Indonesia's past and continuing efforts to reduce subsidies will provide valuable experience for other countries struggling with similar challenges.

• The United States is one of the primary donors to the Clean Technology Fund (CTF), one of the multilateral Climate Investment Funds. The CTF, in partnership with the Asian Development Bank and the World Bank, will provide Indonesia with $400 million in co-financing to mobilize over $3.1 billion in total investments in clean energy -- primarily in geothermal energy and energy efficiency.

• U.S. Secretary of Commerce Gary Locke led a mission to Jakarta earlier 2010 to promoted U.S. exports in a broad range of clean energy technologies, including geothermal, biomass, hydropower, wind, solar, and energy efficiency products and services.

• The U.S. Trade Development Agency supported Indonesian participation in a USTDA-sponsored ASEAN Clean Energy Trade, Technology and Investment Forum earlier 2010. The event brought ASEAN and U.S. government senior officials together with U.S. industry and international financing entities to promote the acceleration of clean energy project deployment in the region.

• Indonesia recently joined other top ten global methane emitters in the Global Methane Initiative (GMI). Through involvement in GMI and cooperation with the U.S. Environmental Protection Agency, Indonesia will have significant opportunities to limit greenhouse gas emissions and advance clean energy development, particularly in the coal, oil, and gas sector.

• The U.S. Department of Energy and the Indonesia Ministry of Energy & Mineral Resources convened the 3rd U.S. - Indonesia Energy Policy Dialogue in Washington in June, 2010. The meeting, which included the business communities from both nations, emphasized enhanced bilateral cooperation in clean energy policy, technology and investment, particularly in renewable energy, geothermal power, natural gas, bio fuels, and clean civil nuclear power. Source: http://goo.gl/kd7Km

Related links:

- ASEAN Clean Energy Trade, Technology, and Investment Forum http://goo.gl/nl7U9
- Clean Technology Fund Investment Plan for Indonesia http://goo.gl/SSPkY
- Indonesia Clean Energy Development (ICED) http://goo.gl/siL6x
- United States Secretary of Commerce Gary Locke Will Visit Jakarta with a Select Group of U.S. Business Leaders May 25 and 26, 2010 http://goo.gl/YNyet
- USAID Environmental Cooperation-Asia Clean Development and Climate Program (ECO-Asia CDCP) http://cea.zaloni.net/

Energy Efficiency in Indonesia

With vast economic growth and population growth, Indonesia has the interest to manage and use energy as effectively and as efficiently as possible. According to the World Bank, Indonesia's economic growth increased from 5.7% in 2005 to 5.9% in 2010, and is projected to reach 6.2% in 2011. While the population of Indonesia, which now reaches up to 229 million people are expected to increase to more than 230 million in 2011.

All of this growth is surely accompanied by the increase in energy demand due to the increasing number of homes, factories, and commercial and industrial buildings. If we assume that demand for electricity will grow in average 7% per year for the next 30 years, then electricity consumption will significantly increase, for example in the household sector, consumption will increase from 21.52 GWh in 2000 to around 444.53 GWh in 2030.

There are four main sectors of energy users, namely household, commercial, industrial and transportation sector. Currently the largest energy user is the industrial sector with a share of 44.2%. Next largest consumption is the transportation sector with 40.6%, followed by the household sector with 11.4% and the commercial sector with 3.7%.

Until now, the primary sources of energy still come from fossil fuels, with 46.9% from oil, 26.4% from coal, and 21.9% from natural gas. Hydro (water) power and other renewable energy only make up about 4.8% from the total of utilized energy resources.
Source: http://goo.gl/MJU2W

Indonesia's Country Report: Encouraging Clean Energy Initiative, *Dewan Perwakilan Rakyat, Republic of Indonesia, 2010*

Indonesia is a country with vast natural resources and significant reserves in oil, gas and coal. It is also abundant in reserves of renewable energy sources. It is one of the largest producers of liquefied natural gas and the eighth largest producer of coal world-wide, making Indonesia an important partner for several countries in the region. There is also an enormous potential to develop and use clean energy sources such as hydropower, geothermal and biomass.

The report provides how the Government of Indonesia reduces dependency on oil and secure the energy supply for domestic use. The Government of Indonesia also has set several programs to encourage the development of renewable energy and energy conservation.
Complete report available at:
http://goo.gl/cUCvA

MORE INFORMATION RESOURCES

Articles

Please contact the IRC to get the full text of the articles listed below.

A Convenient Truth About Clean Energy / Carl E Schoder. *The Futurist*. Washington: Jan/Feb 2011. Vol.45, No. 1, p. 25-29 (5 pp.)
The convenient truth is that the world does not have an energy shortage; it simply lacks an energy infrastructure capable of using the abundant source of solar energy received from the sun every day. A long-range solution in the form of carbon-free energy is feasible and doable if one plans now, spend for the future instead of the present, and conserve more while spending less.

Globalizing the Energy Revolution: How to Really Win the Clean-Energy Race / Michael Levi, et.al. *Foreign Affairs*. New York: Nov/Dec 2010. Vol. 89, No. 6, p. 111-0_13 (12 pp.)
The odds that the world will face catastrophic climate change are increasing, and a massive drive to develop cheaper clean-energy sources is necessary. Instead of viewing the clean-energy race as a zero-sum game, governments must work together to promote cross-border innovation and protect intellectual property rights. Only by enlarging clean-energy markets can everyone benefit.

Positive Energy / Kevin Coyle, Maria Flynn. *Community College Journal*. Washington: Oct/Nov 2010. Vol. 81, No. 2, p. 40-43 (4 pp.)
According to the Center for American Progress, clean energy will be one of the largest industries in the country by 2020, valued as high as $2.3 trillion per year. The Michigan Community College Association has built a network focused on developing green-jobs training programs and green energy.

Wind Power: An Emerging Energy Resource / Walter F Deal. *Technology & Engineering Teacher,* Sep2010, Vol. 70 No.1, p9-15, (7pp.)

The article focuses on wind power, one of the growing alternatives for energy resources. It defines energy as the capacity to work, which can be changed into another form. It mentions that wind energy is one of the oldest energy resources used by human wherein windmills were used to capture the energy of the wind. It says that wind turbines are categorized into horizontal-axis and vertical-axis machines and used a propeller or rotor to convert wind energy into mechanical energy .

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MORE INFORMATION RESOURCES

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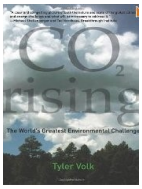
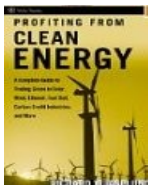
Books

Climate Crisis, The: An Introductory Guide to Climate Change / David Archer, Stefan Rahmstorf. New York : Cambridge University Press, 2010. ISBN 9780521732550
This book provides a concise and accessible overview of what we know about ongoing climate change and its impacts, and what we can do to confront the climate crisis.



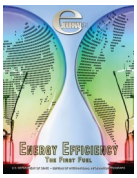
CO2 Rising : The World's Greatest Environmental Challenge / Tyler Volk. Cambridge, MA: MIT Press, 2008. ISBN: 9780262220835
An introduction to the global carbon cycle and the human-caused disturbances to it that are at the heart of global warming and climate change.



Profiting from Clean Energy: A Complete Guide to Trading Green in Solar, Wind, Ethanol, Fuel Cell, Carbon Credit Industries, and More / Richard W. Asplund. New Jersey: John Wiley &Sons, 2008. ISBN: 978-0-470-11799-6
With Profiting from Clean Energy, respected investment analyst Richard Asplund provides an in-depth explanation of the technology and industry structure behind various sectors of this field and in the process identifies more than 150 stocks related to clean energy.

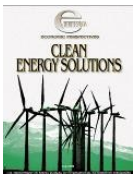
Check more titles of IRC collection at: http://69.63.217.22/U10086Staff/OPAC/index.asp

E-Publications



Energy Efficiency: The First Fuel (eJournal USA), April, 2009
The First Fuel examines the strong U.S. record of tapping efficiency as a resource, and the accelerated efforts by individuals, organizations, and governments to squeeze greater productivity from all energy sources.
Read more: http://goo.gl/xFe11

The Greening of U.S. Corporations (eJournal USA), March, 2008
This issue of e-Journal USA delves into what those familiar with the history of the environmental movement in the United States might see as a surprising trend — the way U.S. corporations in recent years have embraced environmentally friendly ways of doing business. Read more: http://goo.gl/ju5dN



Clean Energy Solutions (eJournal USA), July, 2006
Projected dramatic increases in energy consumption in the coming decades, combined with a higher risk of climate change, require a massive global response based on technological innovation and the power of the market-place. Experts and government officials describe the options before us, including renewable energy, novel vehicles, and low-carbon power generation, and discuss the best ways leading to a sustainable energy future.
Read more: http://goo.gl/Hu225

Disclaimer: Books, articles, reports and websites described in this info package present a diversity of views in order to keep our users to keep abreast of current issues in the United States in particular and worldwide in general. These items represented the views and opinions of the authors and do not necessary reflect official U.S. Government policy.

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